Geological Sciences

What is Geological Sciences? Geoscientists interpret our natural world. We use geophysics, geochemistry, geobiology, and field geology to understand the modern and ancient Earth. Rocks, minerals, fluids, fossils, mountains, sediments, glaciers, and volcanoes are all fundamental to constraining Earth processes at all scales. Managing water, mineral, and energy resources, designing sustainable strategies for infrastructure and industrial growth, and solving natural and anthropogenic hazards, including climate change, depend on a deep understanding of geological processes.

Reasons To Study Geological Sciences

- Most students in the department gain nearly 400 hours of hands-on experience on field trips.
- We are a small, friendly department. You will get to know your classmates and professors very well.
- The department boasts state-ofthe-art facilities, including worldclass Geochemistry and Applied Geophysics Labs.
- The Miller Museum, our on-site museum right here at Queen's, is your classroom.
- Our students have the opportunity to study abroad with the International Exchange Program.

Alumni Story

"I can honestly say that the choice to study Geology at Queen's was the single best decision I have ever made. The department provided all the knowledge, opportunities, and support to develop a successful career in the geosciences along with relationships to friends and mentors that will last a lifetime."

-Jonathan Savard, BSc'16

TOP ALUMNI JOBS

21% of alumni work in ENERGY

16 % of alumni work in MINING

15% of alumni work in EDUCATION

of alumni work in GOVERNMENT

2024-25 Plan Thresholds

Thresholds are made on a competitive basis and are updated annually. To see the thresholds for all programs as well as the latest information, please visit quartsci.com/planselection

Interested in finding out how to augment your degree with Experiential Learning? Learn what opportunities and resources are available for you on the Experiential Learning website. You can also reach out to the team directly at asc.el@queensu.ca.

add a CERTIFICATE

Data Analytics

Disability and Physical Activity

Geographic Information Science

Indigenous Languages and Cultures

International Studies

Sexual and Gender Diversity

Urban Planning Studies

QUartsci.com/certs



Acquire Skills. Gain Experience. Go Global.

That is a degree from Queen's.

queensu.ca/geol

Geological Sciences MAJOR

BACHELOR OF SCIENCE (HONOURS): MAJOR, MINOR, SPECIALIZATION

	1ST YEAR	2ND YEAR	3RD YEAR
GET THE COURSES YOU NEED	In first year you will have the chance to explore Geology by taking (GEOL 104, GEOL 107). The foundations will include biology, chemistry, geography, and geology along with some electives. Attend Majors Night in the Winter term to learn more about Plan options. Interested in getting a head start in learning and working in a digital world? Take ASCX 150 and develop future-ready skills!	Start going deeper into the discipline of Geology by taking (GEOL 221, GEOL 232, GEOL 235, GEOL 238 & GEOL 249). Want to make sure your academics are where you want them to be? Visit SASS (Student Academic Support Services) and the Writing Centre for some help.	A chance to start grouping courses in areas of interest, or to keep it more general and explore many areas of Geology. Meet with an Academic Advisor to make sure you are on track and have planned out your courses for next year.
GET RELEVANT EXPERIENCE	Join teams or clubs on campus such as the Queen's University Experimental Sustainability Team (QUEST) and the Queen's Project on International Development (QPID). See the AMS Clubs Directory or the Queen's Get Involved page for more ideas.	Look into <u>summer jobs</u> by talking to the dept. or Career Services about work through <u>SWEP</u> or <u>NSERC</u> . Take more responsibility within different clubs or extracurricular activities. Consider entrepreneurial opportunities via programs like the <u>Queen's Innovation Connector Summer Initiative</u> (QICSI).	Stay during the summer as an assistant to a faculty member or apply for an external summer research opportunity. Consider applying to do a 12-16 month QUIP internship between your third and fourth year.
GET ENGAGED WITH THE COMMUNITY	Volunteer on or off campus with different community organizations, such as the Miller Club and Miller Museum.	Get involved with the Miller Club and Miller Museum. Start or continue volunteering with organizations such as Society of Economic Geologists, Engineers Without Borders, or Women in Science and Engineering.	Get connected with GARNET- Geo Alumni Resource Network. If interested, attend PDAC- Prospectors and Developers Association of Canada, Oil and Gas Speakers Series, and the Annual Advances in Earth Sciences Research Conference. Investigate the Professional Geoscientists of Ontario for the requirements to be qualified as a professional Geoscientist.
GET ENGAGED GLOBALLY	Prepare for work or studies in a multi-cultural environment by taking QUIC's Intercultural Competency Certificate, and research possible immigration regulations. Speak to a QUIC advisor to get involved in their programs, events, and training opportunities.	Is an exchange in your future? Start thinking about where you would like to study abroad. Apply in January for a third year exchange through the International Programs Office.	Build your intercultural competence by getting involved with other cultures or by practicing or improving your language skills.
GET CAREER READY	Grappling with program decisions? Contact the Chair of Undergraduate studies in the Department of Geological Sciences and Geological Engineering. Get some help wondering about career options	Explore different careers of interest by accessing resources in the Career Services <u>Career Advising and Resource Area</u> . For more information check out <u>Career Cruising</u> or by finding and connecting with alumni on <u>LinkedIn</u> .	Start focusing on areas of interest. Research education requirements for careers of interest. If needed, prepare to take any required tests (like the LSAT or GMAT) and get help thinking about Grad School from Career

4TH OR FINAL YEAR

In fourth year you will have the chance to participate in research-based courses that can lead to <u>Graduate School</u> or to your future career path. Make sure to finish up all your courses for your major and your optional minor and/or certificate(s).

Z

~

Ω

S

Z

0

U

Services.

Investigate requirements for full-time jobs or other opportunities related to careers of

Assess what experience you're lacking and fill in gaps with volunteering, clubs, or internships – check out the Career Services skills workshop for help.

Consider joining professional organizations such as the Geological Association of Canada, the Canadian Society of Petroleum Geologists, the International Association of Hydrogeologists, and the National Ground Water Association.

Join groups on LinkedIn reflecting specific careers or topics of interest in Geology.

International students interested in staying in Canada can speak with an International Student Advisor

Apply to jobs or future education, or make plans for other adventures. Get help from Career Services with job searching, resumes, interviews, Grad School applications, or other decisions.

Knowledge & Workplace Skills

A degree in Geology can equip you

- Knowledge of principles and techniques of the earth sciences
- Practical applications of geological science techniques
- Understanding of the variability of Earth materials and their changes with time and environment.
- Fieldwork skills to design and carry out site investigations to solve problems
- Technical skills to use up-todate geological analysis tools, equipment, and software
- Research skills to conduct scientific research and analyze quantitative information, develop multiple working hypotheses
- Problem solving to approach a range of problems from various perspectives
- Ability to work independently and in teams on projects.
- Oral and written communication to clearly explain technical information and write reports

Career Possibilities

A degree in Geological Science can take your career in many directions. Many students choose to continue their academics with a master's or connect with GARNET to network with alumni. Our students are equipped with a strong foundation for careers in:

- Ecology
- Environmental Geology
- Geological Hazards
- Geomatics
- Geomorphology
- Geophysics
- Geoscience
- Hydrology
- Museum Curation
- Nature Resources
- Paleontology Renewable Energy
- Resource Policy Analyst
- Toxicology
- Volcanology

Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.

How to use this map

Use the 5 rows of the map to explore possibilities and plan for success in the five overlapping areas of career and academics. The map just offers suggestions – you don't have to do it all! To make your own custom map, use the My Major Map tool.

from Career Services.

Geological Sciences



Get started thinking about the future now - where do you want to go after your degree? Having tentative goals (like careers or grad school) while working through your degree can help with short-term decisions about courses and experiences, but also help you keep motivated for success.

Get the help you need

Queen's provides you with a broad range of support services from your first point of contact with the university through to graduation. At Queen's, you are never alone. We have many offices dedicated to helping you learn, think and do.

Ranging from help with academics and careers, to physical, emotional, or spiritual resources - our welcoming living and learning environment offers the programs and services you need to be successful, both academically and personally. Queen's wants you to succeed! Check out the Student Affairs website for available resources.



Department of Geological Sciences and **Geological Engineering** Miller Hall, Bruce Wing 36 Union Street 613-533-2597 queensu.ca/geol

QUIP QUEEN'S UNDERGRADUATE INTERNSHIP PROGRAM

START DATES

in May, September, or January

POSITIONS

are paid and full-time

WORK TERMS

are 12-16 months long



- Graduate with a "Professional Internship" degree
- Learn about current advances, practices and technologies in business and industry.
- Test drive a career, earn a competitive salary, and get real world experience.



- 2nd or 3rd Year Students
- Minimum GPA of 1.9



- Gain a year of career-related work experience.
- Build network connections.
- Receive support from Queen's staff in job search and during internship.

SAMPLE PAST INTERNSHIPS



For more information, contact quip@queensu.ca or visit the Program Website.

Why study in Kingston?

Since 1841, our community has been more than a collection of bright minds -Queen's has attracted students with an ambitious spirit. Queen's has the highest retention rates, the highest graduation rates, and one of the highest employment rates among recent graduates. We are a research intensive university focused on the undergraduate experience. The BBC has identified Kingston as one of the GREATEST UNIVERSITY TOWNS in the world – and it is often awarded the safest city in Canada. It is a university city at the core; just a guick drive

than you think to Toronto, Montreal, Ottawa and even New York. A university with more clubs per capita than any other university in Canada, and a city with more restaurants per capita than any other city in North America - you will have London / 7 hrs CANADA Oueen's the experience of a Beijing / 15 hrs lifetime at Queen's Dubai / 14 hrs - and graduate Calgary / 4 hrs Vancouver / 5 hrs with a degree Halifax / 2 hrs that is globally San Francisco / 5.5 hrs Kingston recognized Denver/3 hrs among New York / 1.5 hrs UNITED the best. STATES Dallas / 3.5 hrs Atlanta / 2 hrs

Bermuda / 2 hrs